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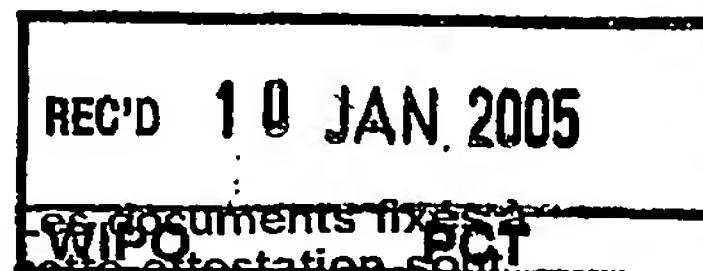
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Patentanmeldung Nr. Patent application No. Demande de brevet n°

03026785.0

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Short message for voice group call service

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5 Short Message for Voice Group Call Service

Brief description

10 The Short Message for Voice Group Call Service is designed to provide all listener of a Voice Group Call with additional text- or binary-information (short message). This is done by sending a SM MT to all listener and to the talker in unacknowledged mode.

15

The receiving of the SM by members currently not partaking in the listener mode or talker mode, but subscribed for the ongoing VGS is not supported by this feature.

20 The SM for VGCS shall follow the structure of a normal PtP-SMS in parallel to an ongoing PtP-voice- or PtP-cs-data-call as currently standardised by 3GPP as most as possible.

25 In addition of providing the receiving of a SM (SM MT) it is also possible to provide the sending of a SM from the current talker to the network (SM MO). Here it may be a further option to the send this SM in acknowledged mode.

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### 1. Proposed Implementation

A SME in the network requests the SC to send a SM to the members of a VGC. In this case (where the destination of a SM is not a MSISDN, but an VGC-REFERENCE), the SM  
10 interrogates the GCR in order to retrieve the routing information of the Anchor-MSC for this VGC. That followed the SC forward the SM to the appointed Anchor-MSC for this VGC. The Anchor-MSC itself forward the SM to all BSS partaking in the VGC and in addition to all Relay-MSCs. The  
15 Relay-MSCs in turn are responsible to sent the SM to all respective BSS for this VGC.

The SM itself is sent on the VGC controlling SCCP connection (Another solution can be to send the SM on all resource  
20 controlling SCCP connections associated to the respective VGC.). The BSS is responsible to send this SM on the respective SACCH of all TCHs where this VGC is established. In this case the SMS will not be acknowledged.

25 Furthermore it should be possible that the current talker is able to send a SM. In this case the MS of the current talker will sent the SM via the SACCH of the respective uplink-channel on the resource controlling SCCP connection to the MSC analogue to the sending of a PtP-SMS via the respective  
30 SACCH. In this case the destination of the SM can be either a MSISDN (or similar for a PtP-SM) or a VGC-REFERENCE. In the first case the SM is forwarded to the SC and there it will be handled according to normal PtP-SM. In the second

case the SM is handled as accordingly the described procedures in this chapter.

In this case an acknowledgement of the SM can be realised.  
5 The acknowledgement is sent from the MSC to the BSS on the resource controlling SCCP connection. The acknowledgement of the SM sent from the talker can be realised, independent from the chosen channel-model for VGC.

## 10 2. Addressing

The SMS will be addressed by the associated Voice Group Call REFERENCE.

## 3. Problems/Risks/Limitations/Other Dependencies

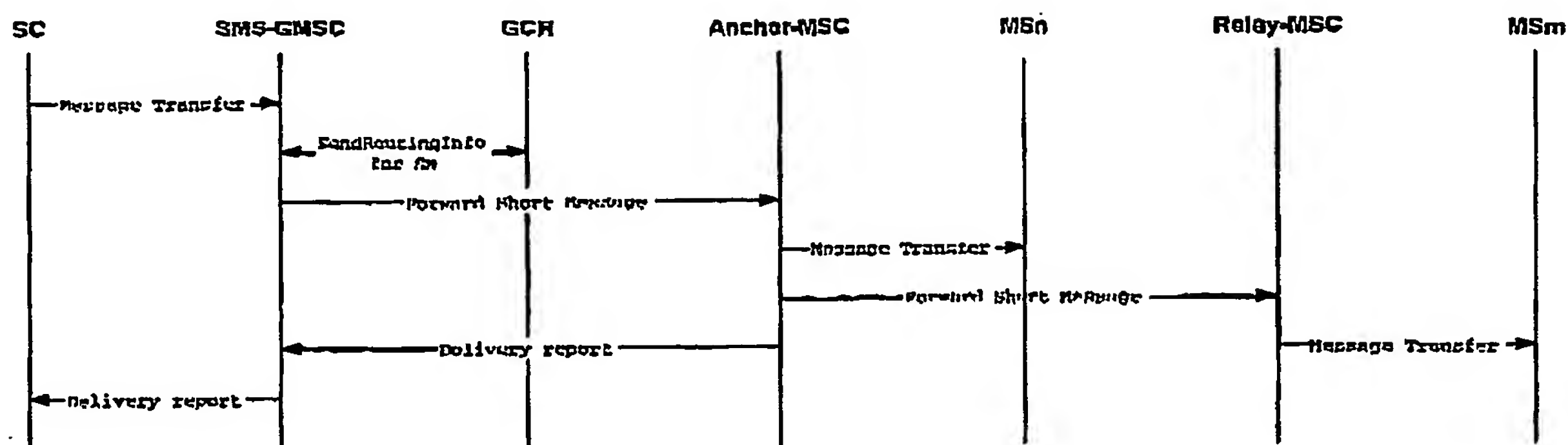
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a) If the current talker is sending a SM and during the sending the talker intends to end his speaking, it is necessary that the MS will hold the uplink until the SM is sent completely to the network. This may cause pauses  
20 in the conversation (in the case that other MS are requesting the uplink).

b) Sending and Receiving of a SM in parallel to a ongoing voice group call will be unacknowledged. It may be an  
25 further option to acknowledge the SM sent by the current talker by the network. In this case it has to be solved if the network acknowledge a SMS and MS which has sent the SMS is not the current talker any more.

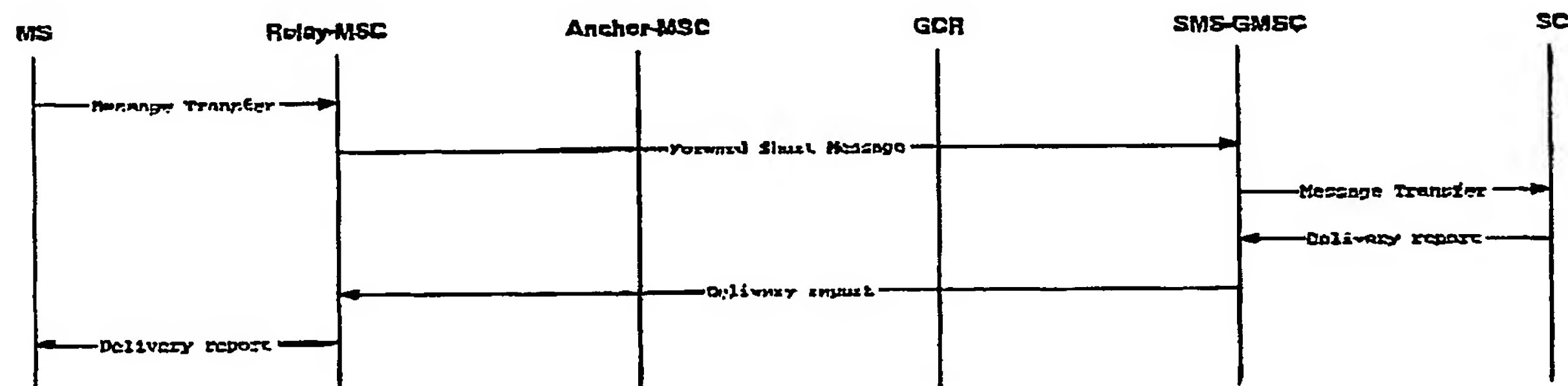
30 c) There is no interaction with GPRS and SM for this feature.

#### 4. Signalling Overview



5 **Figure 1: Transfer of a SM to members of a VGCS**

Note: The delivery report can be generated by the current talker of the group (not shown in Figure 1).



10

**Figure 2: Transfer of a SM from the current talker of a VGCS**

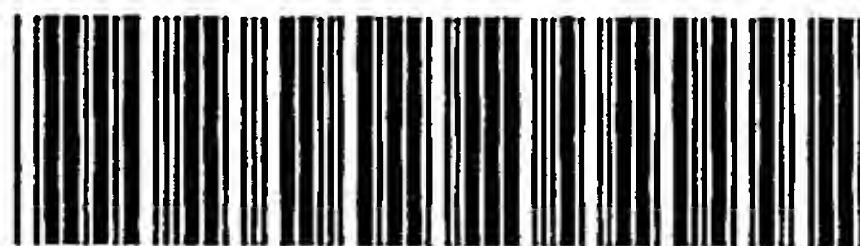
#### 5. Abbreviations

	SM	Short Message
15	SC	Short
	SME	Short Message Entity
	VGCS	Voice Group Call Service
	VGC	Voice Group Call
	MS	Mobile Station
20	MT	Mobile terminated
	MO	Mobile originated

**Patent claims**

- 5 1. Method for transmitting text- and/or binary information  
(short message) in addition to voice information for at  
least one listener of a Voice Group Call, characterised by  
sending a special, dedicated signal to all listeners and to  
the talker in unacknowledged mode.
- 10 2. Mobile communication system with at least one logical  
unit for controlling signal exchange between the members of  
a Voice Group and with additional functional processing  
means for transmitting text- and/or binary information to
- 15 one or more users of the Voice Group.

PCT/EP2004/013158





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